The Weather

Today: Scattered rain, 57°F (14°C) Tonight: Widespread rain, some fog, 52°F (11°C) Tomorrow: Rain early, 61°F (16°C) Details, Page 2

Cambridge, Massachusetts 02139 Volume 126, Number 46 Tuesday, October 17, 2006

Task Force Suggests Curriculum Reform MIT Cable

The final report of the Task Force on the Undergraduate Educational Commons, released Friday, identifies a set of goals for the education of MIT undergraduates, makes recommendations on possible changes to the core curriculum and infrastructure of undergraduate education, and emphasizes the importance of international experiences.

The committee distilled MIT's educational mission into a series of four goals that apply to all undergraduates, emphasizing a broad understanding of science and technology, as well as research. (See page 15 for complete goals and recommendations.)

The recommendations include proposed changes to the General Institute Requirements, ways for study abroad programs and international study to be more accessible to students, and improvements in diversity, advising, scheduling, and orientation, as well as "first-year coherence and integrity."

"The report acknowledges that the number of areas of scientific knowledge of which our students should be aware has grown in the last fifty years," President Susan Hockfield said in a statement Friday. "Its recommendations also include a more clearly articulated set of foundational elements in the humanities, arts, and social sciences.'

The report further points to "an intellectually richer first-year experience," Hockfield said.

A presentation of the report will be made at the faculty meeting tomorrow at 3:30 p.m. in 32-123.

The faculty will decide which



Dean for Undergraduate Education Daniel E. Hastings '80 and Margaret S. Enders, senior associate dean from the Office of Faculty Support, attended yesterday's Undergraduate Association Senate meeting to discuss the final report of the Taskforce on Undergraduate Education Commons.

recommendations are important. The job of refining the recommendations and making specific proposals to the faculty for adoption will then fall to a subcommittee of the Committee on the Undergraduate Program, Dean for Undergraduate Education Daniel E. Hastings '80 said at last night's Undergraduate Association Senate

A new student committee, made up of members of the Student Advisory Committee and the Student Committee on Educational Policy that provided input to the task force and other students, plans to gather

undergraduate input and compile a written response to the report over the Independent Activities Period, according to Aron Walker '07, a student member of the task force.

The committee will gather input from students on the report via online forums that will be up later this week, a town hall meeting held Sunday afternoon, and a survey that will begin next week and run for about two weeks, Walker said.

Changes to GIRs proposed

The report recommends several changes to the GIRs that were first presented to the MIT community in

The proposed Science, Math, and Engineering portion of the GIR will replace the current science core. restrictive electives in science and technology, and the laboratory requirement and will provide more flexibility in course selection for students. (See page 15 for more details.) Three courses — Calculus I and II and Physics I — would remain as strict requirements.

In addition to these three sub-

Curriculum, Page 14

To Receive Channel **Changes**

By Apoorva Murarka

Major changes to MIT Cable are on the way with Comedy Central, the Sci Fi Channel, and the Discovery Channel replacing C-Span 2, Bloomberg Television, and MIT Weather When You Want It. Additionally, mtvU will be upgraded to the "real MTV," according to UA Vice President Ruth Miller '07. The first of these changes will be implemented in the next two weeks as MIT Weather When You Want It is replaced by the Discovery Channel. However, it may be a while before Comedy Central and the Sci Fi Channel hit the campus television screens.

According to Gerald E. Dalley G, Graduate Student Council Housing and Community Affairs Committee co-chair, the Discovery Channel is offered free of charge so MIT Cable can act right away.

The decisions were made by representatives from the Undergraduate Association, GSC, Dormitory Council, MIT Cable Television, and Housing after reviewing the results of the survey that opened late this summer and ran through Sept. 30. The purpose of the survey was to determine the least watched channels in the

Cable, Page 10

Endowment Increases to \$8.4 Billion

By Manisha Padi

The MIT endowment increased an impressive 23 percent to a total of \$8.4 billion during the past fiscal year, a significant improvement over last year's gain of 14.4 percent. The increase of \$1.7 billion is also unusual, since the rate of growth has outpaced that of other top universities this year — mostly due to increased returns from investments. In particular, growth in international equity, real estate values, and real assets have ceeded previous years, according to Seth Alexander, president of the MIT Investment Management Company.

This latest increase marks a clear recovery from the losses in 2000 to 2003. In 2000, the endowment was valued at \$6.48 billion and dropped 20 percent to \$5.13 billion in 2003. This was due mostly to a general decline in investment returns during that time. In comparison, Harvard University, which has the largest endowment of any university, had an increase of 16.7 percent this year, and a 15 percent increase last year, according to Harvard's Office of News

Endowment, Page 9



Claiming that MIT has been cited 10 times in the past nine months for violations of the federal Animal Welfare Act, protesters from the Cincinnati-based animal rights group "S.A.E.N." (Stop Animal Exploitation Now!) picketed outside 77 Mass. Ave yesterday afternoon.

In Short

¶ The monthly faculty meeting will be held tomorrow at 3:30 p.m. in 32-123. The report of the Task Force on the Undergraduate Educational Commons will be discussed.

Send news information and tips to news@the-tech.mit.edu.



CAMPUS LIFE The Tech has a talk with Amazon.com CEO Jeffrey P. Bezos.

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Alum works to distribute unwanted prescription drugs to needy patients

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World & Nation 2

THE TECH October 17, 2006 Page 2

World & Nation

Russia Threatens to Revoke Oil Company's Licenses

By Andrew E. Kramer

THE NEW YORK TIMES

In a sign of continuing turmoil in the Russian oil industry, the government threatened on Monday to revoke oil field licenses held by the country's largest private energy concern, Lukoil.

The action affected 19 of 406 licenses owned by Lukoil, a company that is 20 percent owned by ConocoPhillips of the United States. Lukoil said in a statement that it expected to resolve the complaints soon, and analysts agreed that was likely.

Still, the enforcement action was significant because the same environmental regulator who is behind it suspended a permit last month for a \$22 billion project operated by Royal Dutch Shell on Sakhalin Island. That regulator, Oleg L. Mitvol, deputy director of the environmental agency Rosprirodnadzor, has become a closely watched figure by Moscow energy analysts.

Mitvol vowed that he would eventually inspect all energy companies working in Russia. In the politically tinged atmosphere of Russian energy politics, that statement seemed intended to counter criticism from diplomats and oil analysts that Mitvol had selectively enforced the rules against Shell.

FBI Searches Home Of Congressman's Daughter

By David Johnston

THE NEW YORK TIMES

Federal agents executed search warrants on Monday at the homes of Rep. Curt Weldon's daughter and a longtime political associate in an investigation into whether Weldon, R-Pa., improperly aided their efforts to obtain lobbying and public relations contracts, law enforcement officials said.

FBI agents searched four homes and other locations in the vicinity of Philadelphia and two other sites near Jacksonville, Fla. as the part of the inquiry. Debbie Weierman, a spokeswoman for the bureau's Washington office, confirmed the searches, but would not say why the locations were searched.

Weldon's residence and his congressional office were not among the locations that were examined, but other law enforcement officials said that Weldon is the subject of an intensifying corruption inquiry. Affidavits citing why agents wanted to carry out the searches were

Suicide Bomber Kills 94 In Sri Lanka

By Shimali Senanayake

COLOMBO, SRI LANKA

A suicide bomber rammed a truck packed with explosives into a military convoy on Monday, killing at least 94 people and wounding 150. The explosion, about 100 miles northeast of the capital, was one of the deadliest attacks since a 2002 cease-fire between the government and separatist Tamils.

The government blamed the rebels, the Liberation Tigers of Tamil Eelam, for the attack, a charge the group neither acknowledged nor denied. The vast majority of those killed and injured were sailors, but a military spokesman said some civilians were caught in the explosion.

"This is a barbaric terrorist act," said Keheliya Rambukwella, the government's military spokesman. "It clearly shows that peace is not on the agenda of the LTTE and they don't care about international

But he said the government planned to attend peace talks with the rebels, which are being brokered by Norway and are to resume Oct. 28 in Geneva after an eight-month hiatus. The separatists have said they may back out of the talks.

North Korean Explosion Fuel Concluded to Be Homemade

By Thom Shanker and David E. Sanger

THE NEW YORK TIMES

WASHINGTON

American intelligence agencies have concluded that North Korea's test explosion last week was powered by plutonium that North Korea harvested from its small nuclear reactor, according to officials who have reviewed the results of atmospheric sampling since the blast.

As administration and intelligence officials watched for indications that the North might be preparing a second test, Secretary of State Condoleezza Rice warned North Korea on Monday that it risked even further isolation if took such a provocative action.

The intelligence agencies' finding that the weapon was based on plutonium strongly suggested that the country's second, secret path to a bomb - based on uranium and provided to North Korea by Pakistan's former nuclear head — is not yet

Nuclear experts said the fact the bomb was made with plutonium was important because it suggested that North Korea likely only has one

nuclear program mature enough to produce weapons.

"This is good news because we have a reasonably good idea of how much plutonium they have made," said Siegfried S. Hecker, the former head of the Los Alamos National Laboratory and now a visiting professor at Stanford University. Hecker, who has visited North Korea and is one of the few foreigners to have seen parts of the country's nuclear infrastructure, said that it was his guess that "they tried to test a reasonably sophisticated device, and they had trouble imploding it properly."

The supply of plutonium materials is known from the days when international inspectors kept tabs on the fuel rods in the North's reactor, and intelligence analysts estimate North Korea has enough material to make six to 10 bombs.

Politically, the results of the test may revive last week's finger-pointing about who is more responsible for the Korean test, Bill Clinton or George Bush.

Clinton negotiated a deal that froze the production and weaponization of North Korea's plutonium, but intelligence agencies later determined that North Korea began its secret uranium program under his watch. The plutonium that North Korea exploded was produced, according to intelligence estimates, either during the administration of the first President Bush or after 2003, when the North Koreans threw out international inspectors and began reprocessing spent nuclear fuel the inspectors had kept under seal.

Unlike the Clinton administration in 1994, the current Bush administration chose not to threaten to destroy North Korea's fuel and nuclear reprocessing facilities if they attempted to make weapons.

That threat in 1994, which resulted in the weapons freeze, was made by William Perry, then Defense Secretary. In an interview on Monday, Perry said: "There was a brief window to catch this plutonium before it was made into bomb fuel. It's gone. It's out of the barn now."

After a week of some lingering doubt about whether the test had indeed been a nuclear detonation, the office of John D. Negroponte, director of national intelligence, confirmed that much in a statement issued on Monday.

High Crime Rates Limit Growth Of Latin American Economies

By Jens Erik Gould

THE NEW YORK TIMES

Years of rampant violent crime

CARACAS, VENEZUELA

are not only robbing Latin America of significant private investment but in some cases stealing up to 8 percent from national economic growth, economists and World Bank officials

Growth rates for the economy, along with those for income and private investment, would be higher, they say, if it were not for widespread insecurity about crime. Instead of simply producing their products, companies feel driven to spend on preventing violence and protecting employees and property. Often there is good reason.

"Our business suffers a lot from crime," said Dario Vivas, president of the Venezuelan waste management company Cotecnica, a subsidiary of Veolia Environnement of France. "Employees cash their salary checks but then arrive home with nothing because thieves have robbed

If Brazil's homicide rate in the early 1990s had been as low as Costa Rica's — one of the lowest in the region at one-sixth Brazil's rate — per capita income would have been about \$200 higher and the gross domestic product 3.2 to 8.4 percent higher in the late 1990s, according to a World Bank report issued to the Brazilian government in September and released to The New York Times.

Across Latin America, the economic cost of crime is similarly pronounced, equal to 14.2 percent of the region's GDP, according to a 1999 Inter-American Development Bank report, the most recent study of the region, though some critics suggest that estimate is too high.

Situation for Noon Eastern Daylight Time, Tuesday, October 17, 2006

"You have money spent on guarding stuff rather than making stuff," said Michael Hood, Latin America economist for Barclays Capital. "There's a large population standing around in blue blazers rather than engaged in more productive activities."

Crime also hurts growth by lowering productivity, high school graduation rates and labor participation, according to a report released last year by the development bank. Social problems like high youth unemployment and deteriorated urban infrastructure, in turn, encourage more crime, the study said.

"Crime scares off domestic and foreign investment," said Andrew Morrison, World Bank economist and a co-author of the Brazil report. "The evidence is that rising homicide rates lead to considerable costs in growth around in the region."

WEATHER

New York's Buffalo Shot

By Tim Whitcomb

While it cooled off in Boston, the locals and tourists in upstate New York woke up last week to a record-setting snowstorm. According to the National Weather Service event report, two consecutive days set records for snowfall: the earliest lake effect snow storm on record as well as the all-time record for daily October snowfall (records began in 1870 and the previous record was set in 1917). Weather reports showed almost two feet of snow in some locations, which led to the shutdown of the New York Thruway. The beauty of the season provided the backdrop for electrical trucks driving west to restore the power lost during the storm.

The warm days and cool nights provide stimulation for the production of anthocyanins, which are one of the chemical pigments in leaves that are responsible for the brilliant sought-after red color. Leaves change color as the annual cycle of solar insolation results in less and less chlorophyll, revealing the other pigments that were present all along, but the climatic dependence of anthocyanin production means that the foliage is slightly different every year. The amount of anthocyanins depends on the climate and is sensitive to the temperature and the amount of sunlight available (regulated by the cloud layers).

To finish off the tourists ogling the old growth, we are now getting our own bit of precipitation, associated with a frontal zone that should come with some warmer air, especially at night. Rain should spread through the area late today and arrive by early Wednesday morning. It will be a little wet, but thankfully not as cold.

Extended Forecast

Today: Afternoon scattered rain. High 57°F (14°C). **Tonight:** Widespread rain, some fog. Low 52°F (11°C).

Wednesday: Rain early. High 61°F (16°C).

Wednesday night: Rain gone, but cloudy. Low 54°F (12°C).

Thursday: Clouds. High 65°F (18°C).

Thursday night: Chance of some rain. Low 61°F (16°C).

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Precipitation Symbols Weather Fronts Other Symbols $\overset{*}{\nabla}$ 又 OO Haze ** § Hurricano

Thu

India's Technology Companies Facing a Shortage of Workers

TIRUCHENGODE, INDIA

As its technology companies soar to the outsourcing skies, India is bumping up against an improbable challenge. In a country once regarded as a bottomless well of low-cost, ready-to-work, English-speaking engineers, a shortage looms.

India still produces plenty of engineers, nearly 400,000 a year at last count. But their competence has become the issue.

A study commissioned by a trade group, the National Association of Software and Service Companies, or Nasscom, found only 1 in 4 engineering graduates to be employable. The rest are deficient in the required technical skills, fluency in English or ability to work in a team or deliver basic oral presentations.

The skills gap reflects the narrow availability of high-quality college education in India and the galloping pace of the country's service-driven economy, which is growing faster than nearly all but China's. Software exports alone expanded by 33 percent in the last year.

countries would be able to keep up with such demand and India is certainly having trouble. The best and most selective universities generate too few graduates, and new private colleges are producing graduates of uneven quality.

Many fear that the labor pinch may signal bottlenecks in other parts of the economy. It is already being felt in the information technology

With the number of technology jobs expected to nearly double to 1.7 million in the next four years, companies are scrambling to find fresh engineering talent and to upgrade the schools that produce it.

Some companies are training faculty members themselves, offering courses tailored to industry needs and improving college labs and libraries. They are rushing to get first choice of would-be engineers long before they have completed their course work. And they are fanning out to small, remote colleges that almost no one had heard of before.

The country's most successful technology concerns can no longer prestigious Indian universities. Nor can they expect recent graduates to be ready to hit the shop floor. Most companies require in-house training of anywhere from two to six months.

Demand is beginning to be felt on the bottom line. Entry-level salaries in the software industry have shot up by an average of 10 to 15 percent in recent years. And Nasscom forecasts a shortage of 500,000 professional workers in the technology sector by

No doubt, the labor crunch is a problem of plenty, and it is starting to pop up across the service economy. ICICI, the country's largest financial services company, announced plans to hire up to 40,000 workers in the next three years.

The Retailers Association of India announced in July that its fast-expanding industry would need nearly 115,000 workers in the next six months. Reuters reported in October that Google was having trouble finding Indian workers proficient in the languages and design technologies used in the latest generation of Web

Leftist Lopez Obrador Loses Local Governor's Race in His Home State

By James C. Mckinley Jr.

THE NEW YORK TIMES

MEXICO CITY

The leader of the Mexican left, who has refused to accept his defeat in the presidential election, took a beating over the weekend in a governor's race widely viewed as a referendum on his charisma and power as a populist

Though aides to the leftist leader, Andres Manuel Lopez Obrador, dismissed the loss as a minor setback, his detractors noted that it was the latest in a string of signs that he is losing public support, even in his home state, Tabasco.

Lopez Obrador has charged that the July 2 presidential election was fraudulent and declared himself "the legitimate president," after a showof-hands vote among his supporters at a mass rally last month. The gathering came after his supporters had blockaded major avenues in the capital for six weeks to demand a re-

The courts awarded a narrow victory to Felipe Calderon, a conservative from President Vicente Fox's

Leftists loyal to Lopez Obrador have vowed to keep Calderon from taking office on Dec. 1, and the leftist leader has promised to set up a parallel

But Sunday's election for governor in Tabasco, in the south, suggested that Lopez Obrador's ability to sway voters has waned since the presidential race. Returning to his home state, Lopez Obrador, the former mayor of Mexico City, campaigned hard for weeks on behalf of his party's candidate, Cesar Raul Ojeda. He often upstaged the candidate during the final days of the

Many Mexicans saw the race as a test of Lopez Obrador's strength. He had, after all, won the state convincingly in the presidential race. But with 96 percent of the precincts counted on Monday, the candidate of the centrist Institutional Revolutionary Party, Andres Rafael Granier, was winning by 10 points.

The election was ugly, and leaders of Lopez Obrador's Democratic Revolution Party said they would challenge the results. Supporters of battles and fired guns at the houses of influential politicians as a scare tactic. The voting was also plagued by allegations of vote buying.

Some political analysts said the results showed that the public was fed up with Lopez Obrador's stubborn reluctance to concede defeat and his reliance on street protests.

"It seems to me to be a catastrophe for him," said Raymundo Riva Palacio, a political columnist for the newspaper El Universal. "On his own turf, the political costs of the protests and the taking of streets has taken its toll in an election."

Oscar Luis RodrÌguez, a longtime member of Lopez Obrador's party in Tabasco, put it more bluntly. "Andres Manuel has lost credibility," he told the daily newspaper El Sol. "He has lost respect. Here Andres Manuel was born, and here he has been buried."

Cesar Yanez, a spokesman for Lopez Obrador, said such political obituaries were premature. Lopez Obrador still plans to hold a faux inauguration on Nov. 21 and then tour the country as an alternative presi-

American and Iraqi Forces Strive to Maintain Peace After Violent Weekend

THE NEW YORK TIMES

BAGHDAD, IRAQ

American military units joined with Iraqi forces on Monday in maintaining a fragile peace between Sunni and Shiite communities in Balad, a rural town north of the capital where an explosion of sectarian violence over the weekend left dozens dead.

In the aftermath of the reprisals, some residents of Balad asked why American troops had not intervened when the killings began in earnest on Saturday. One of the largest American military bases in Iraq, Camp Anaconda, which includes a sprawling air base that serves as the logistical hub of the war effort, is located

"People are bewildered because of the weak response by the Americans," said one Balad resident who asked not to be identified for fear of reprisals. "They used to patrol the city every day, but when the violence started we didn't see any sign of them."

The situation in Balad, about 50 miles north of Baghdad, appears

dilemma for American military commanders at a time when they are hastening the handover of wide areas of the country to Iraqi forces and insisting that those troops take the lead in quelling violence, leaving American forces to step in only when asked. It also highlighted yet again the powerlessness of the Iraqi forces to stand in the way of such sectarian violence.

Killings also continued to besiege the capital on Monday with the discovery of at least 64 bodies across the city, and two car bomb attacks that killed about 22 people. The American military, meanwhile, reported the deaths on Sunday of five American service members, bringing the toll so far this month to 58. One soldier was killed by a roadside bomb in Baghdad, two died in Kirkuk Province and two in Salahuddin province.

Sectarian violence and retribution killings of the kind that unfolded in Balad over the weekend are the purview of the Ministry of Interior, in charge of Iraq's police forces, and

Lt. Col. Michael Donnelly, a spokesman for the Army's 4th Infantry Division, adding that responsibility for the Balad area was transferred from American military units to the 4th Iraqi Army about a month ago.

The U.S. military's job, he said, is to work "by, through and with" its Iraqi counterparts "to build further capacity to reduce the violence, and bring about stability."

American military commanders reviewing what had happened over the weekend concluded the situation in Balad was best dealt with by Iraqi armed forces, a senior military of-

The senior officer, who requested anonymity because he was not authorized to speak publicly on the subject, said that American commanders viewed the upheaval in Balad as a new test for the Shiitedominated government of Prime Minister Nouri Kamal al-Maliki, who has come under American pressure to crack down on militias that have been responsible for much of the killing in the country.

Bush Plays Down Differences With Baghdad

By Sheryl Gay Stolberg

President Bush on Monday reassured Prime Minister Nuri Kamal al-Maliki of Iraq that he would not set a timetable for withdrawal of troops and would continue to support the prime minister, despite recent reports that military generals and some Republican lawmakers are dissatisfied with the Iraqi government's performance.

At the same time, the White House suggested Monday that it would not necessarily accept the recommendations of an independent commission reviewing Iraq policy. "We're not going to outsource the business of handling the war in Iraq," said Bush's press secretary, Tony Snow.

The president's remarks to al-Maliki came during a 15-minute telephone conversation between the leaders, Snow said. During the call, initiated by Bush, the Iraqi prime minister expressed concern about news reports that there would be an attempt to replace him if he was unable to assert control over Iraq within two months, Snow said.

"There was a rumor that there were going to be attempts to replace him if certain things don't happen in two months," Snow said. "And the president said: The rumors are not true; we support you."

Al-Maliki, he said, "assured the president that he is and will continue making tough decisions" to get rid of militias that are responsible for sectarian violence in Iraq.

Disney Toons Will Shun Junk Food Endorsements

By Landon Thomas Jr.

Buzz Lightyear and Lightning McQueen will not be endorsing junk food much longer.

Walt Disney, addressing the growing concerns of parents over child nutrition, said Monday that it would curtail the use of its name and characters with food items that did not meet new nutritional standards. The new guidelines would limit how much sugar, calories and fat could be in snacks and foods marketed by companies that Disney has licensing

The move, which comes at a time of mounting worry about childhood obesity, is likely to put pressure on the company's competitors to follow suit. Left outside the scope of Monday's initiative was any mention of the considerable advertising for junk food products that is carried on Disney's television networks, especially Toon Disney and ABC Kids.

But the policy change was broadly hailed by food industry experts, who saw it as an important statement in the increasingly vocal debate over what parents want their children to eat and what the food companies are trying to sell to them.

"I think this is very significant," said Margo G. Wootan, the nutrition policy director at the Center for Science in the Public Interest, an advocacy group in Washington. "Disney characters will not show up on Pop-Tarts, waffles and fruit snacks. This will allow parents to feed their children more healthfully."

The Islands Survey Damage From Earthquakes

By Janis L. Magin

THE NEW YORK TIMES

Most of the Hawaiian Islands returned to normal Monday as state and local officials got their first look at the damage to roads, bridges and buildings caused by a strong earthquake on Sunday.

The early morning quake was centered off the Kohala Coast on the western shore of Hawaii Island, known as the Big Island, where the most damage was immediately apparent. There were no deaths, and the most serious injuries reported were broken bones.

The U.S. Geological Survey said that the main quake had a preliminary magnitude of 6.6 and that there had been at least a dozen aftershocks, including one that measured 5.8. The quake and its aftershocks initially set off fears of a tsunami, but the Pacific Tsunami Warning Center on Oahu said no tsunami was expected because the quake was too deep underground.

Gov. Linda Lingle issued a disaster declaration hours after the quake, and state officials were awaiting word from the White House about a presidential declaration.

On Oahu, where more than three-quarters of the state's 1.2 million people live, little damage was reported, but most of the island was without power for more than 12 hours. By Monday morning, all but a handful of communities on the island's Waianae Coast had electricity and rush-hour traffic was normal as people headed back to work and school. Only the private Kamehameha Schools were closed

Wal-Mart Said to Acquire Big Chain in China

By David Barboza

THE NEW YORK TIMES

and Michael Barbaro

SHANGHAI, CHINA

Wal-Mart Stores, the largest retailer in the United States, is poised to become the biggest foreign chain in China with the \$1 billion purchase of a major foreign-run retailer here, according to people briefed on the

The move represents a large step for Wal-Mart's strategy in China, allowing the American retailer to more than double its presence in a country that, despite its size and growing middle class, remains largely untapped by foreign retailers.

Though the size of the acquisition — of a Taiwanese-owned supermarket chain called Trust-Mart — may be modest for Wal-Mart, it is a critical one because the China market is becoming much more pivotal in the retailer's overall international strategy. For Wal-Mart, China represents an opportunity to tap a vast and fast-growing market abroad at a time when Wal-Mart is lagging elsewhere and has run into obstacles

"China is the only country in the world that offers Wal-Mart the chance to replicate what they have accomplished in the U.S.," said Bill Dreher, an analyst at Deutsche Bank Securities.

Wal-Mart expects to close its acquisition of Trust-Mart by year end, but the deal still requires approval by Chinese authorities, according to Page 4 THE TECH October 17, 2006

OPINION

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Happy Suicide Day

Katharine E. Silberstein

MIT is famous for its monthly gratuitous three-day weekends. A non-MITer might ask, "Why should all MIT students get all these free breaks?" Upperclassmen are likely to chime in, "We're doing hard work. We deserve it. But freshmen, they aren't taking any classes that are hard enough to merit a catch-up day. They have no reason to complain yet. What gives?" True, the class of 2010 is still only learning how to sip from the fire hose. Some are still getting enough sleep. A lucky few are even getting A's on tests. However, MIT is unlike any learning environment in the world, and it takes a lot of getting used to. An occasional day off does much to ease the painful reality of MIT's workload and the overall stress associated with college.

The saying goes, "At MIT, you can have enough sleep, good grades, or a social life. Pick two." It is certainly a challenge to balance the myriad of obligations – academic, social, physical, and mental. Is this really what college is supposed to be like? Before classes began, we were told that recitations should supplement lecture material, not replace it. However, it is now apparent that problem sets cover topics untouched in lecture, and sometimes even in recitation. The sheer volume of work assigned in each class is enough to push even the most

diligent student over the edge. To classes, add on attending meetings for various clubs and organizations, adjusting to a new living situation, finding something to eat that won't contribute to the freshman fifteen, and making a tiny bit of personal time; it's no wonder we feel stressed.

I'm certainly not the only freshman who feels this way, either. In the days leading up to student holiday three-day weekends, we're all just barely hanging on to sanity, constantly thinking, "What the hell am I doing here?" It

We have not been living in the real world; average is a foreign feeling.

seems as though the work at MIT is dependent on Boyle's Law: With a workweek of smaller volume, the pressure on students increases. The limit of work approaches infinity as time until the due date approaches zero. We aimlessly scribble p-set after p-set, pondering what real purpose our completion of a problem serves besides being able to move on to more problems.

It does seem, however, that this could be a true-to-scale (or perhaps even larger-than-life) way to prepare us for real life. Thus far, kids like us have coasted through our academic training for the most part. Of those admitted to this year's freshman class, over 50% ranked in the top 5% of their high school class. We have not been living in the real world; average is a foreign feeling. So, MIT throws us painfully back down to earth in the hopes that in four years, we will have healed and perhaps developed a tougher skin in order to deal with the world's problem sets. That makes sense, even if it doesn't relieve the suffering caused by this newfound mediocrity.

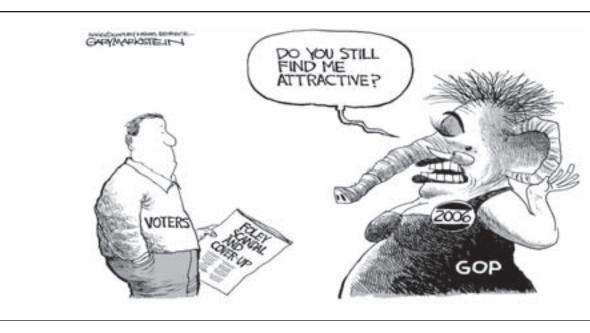
MIT really does think of everything. They know that they are asking us to deal with more than our little lives have ever required of us, and they are empathetic (and rightfully so). Therefore, all students (yes, even freshmen) observe a holy day of obligation to our sanity each month, affectionately known as Suicide Prevention Day, or even more affectionately, Suicide Day. We gather together in solemn prayer that such an extended weekend might allow us to finish p-sets on time, to get caught up on sleep, and maybe even to purge some of the stress from our overtaxed minds and bodies. Even if some waste a long weekend procrastinating like they do all other weekends, we all gratefully acknowledge that the institute is trying to take care of us. Amen.

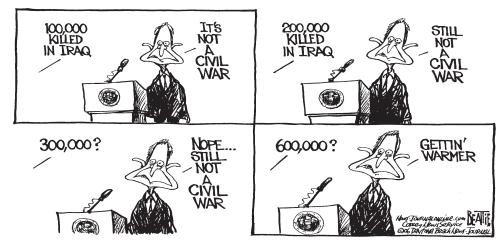
Katharine E. Silberstein is a member of the class of 2010.

Corrections

The tennis player identified as Karina N. Pikhart '09 in a photo caption in the Friday, Oct. 13 issue is actually Katherine M. Smyth '10.

The New York Times story "Chomsky is Alive, Actually, and Hungry for Debate" printed in the Friday, Sept. 22 issue mistakenly reported that Venezuelan President Hugo Chavez thought that Noam A. Chomsky, linguistics professor, was dead. The error resulted from a translation inaccuracy. Chavez had actually expressed admiration for Chomsky and the late John Kenneth Galbraith.





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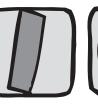
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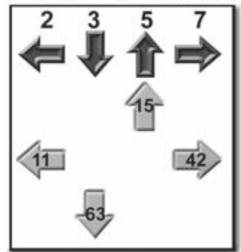


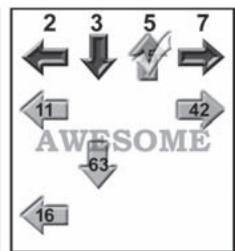


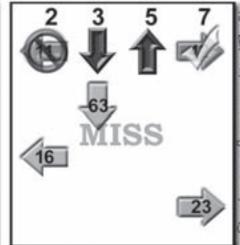


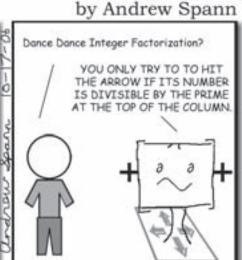


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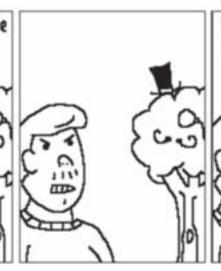


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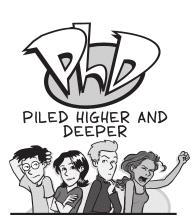
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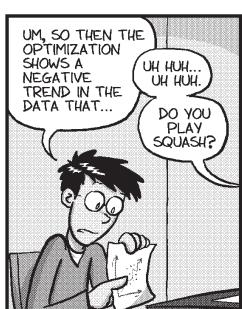








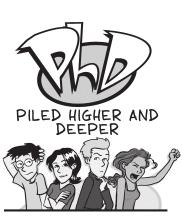




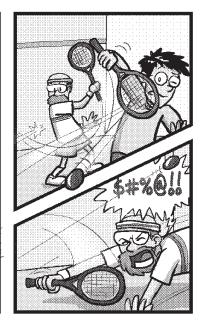


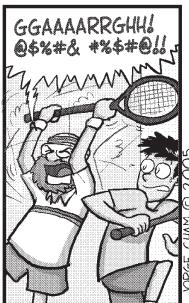


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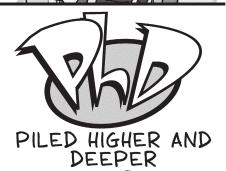


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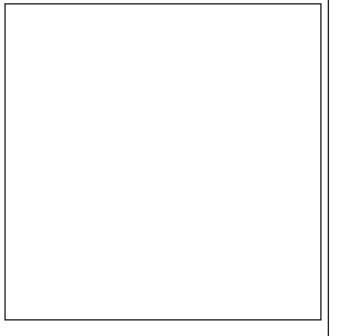






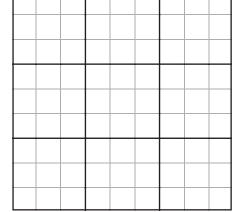
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CAMPUS LIFE Imminent Collapse

By Bill Andrews
CAMPUS LIFE EDITOR

Remember way back in the day, several years ago for some, last year for others, decades for me, when you were still going to high school? Remember how cool it was, finally, to get a car and not have to ride the bus to school, day in and day out? I don't, really, since I never had a car, but I was cool vicariously, through my car-enabled friends, who generously offered me rides in exchange for hearing me work brand names into Spanish conversation. ("Entonces fuimos al Starbucks y nos tomamos unos frappucinos, antes de ir al mall.") Anyway, it was cool to ride to school in something other than that yellow bus, which my neighborhood affectionately called "cheese wagons" (my explanation: Floridians have too much time on their hands).

It is somewhat poignant, therefore, that in my advanced age, after being @mit.edu for roughly 27 years, I find myself in the same predicament. Actually, screw poignant: it sucks! "The wheel has come full circle; I am here!" to quote Edmund of Gloucester, as I do everyday on the busride to school. You see, in a genuinely ironic twist, I, your humble Campus Life Editor, live off campus; yes, yes, it's true! Oh, I feel like I'm on Oprah! Except, of course, for the fact that I don't mind. It's actually kinda great having a place of my (and my roommate's) own, for the most part.

Except when it comes to getting there. It's not really that far out, it's near just past by Hahvahd, but it sounds dramatic because I have to take two buses to get here and back.

Normally it's no big deal, when the timing works out it's a 15 minute commute; heck, that's better than Next House. But, that's when things work out, and the T and the busses are becoming increasingly unreliable.

As I've joked to a few people by now (in my best Captain Barbosa voice), the T's timetables are really more of what you might call guidelines. Perhaps my off campus brethren and sistren can relate, as can anyone who's ever tried to take the number 1 bus. I mean, how many times have you been standing there, at 77 Mass Ave (or it's half-brother 84 Mass Ave), waiting for the #1, cold and rained-upon, past the time mbta.com said it'd be there, only to see two #1's come riding up together. The first is more crowded than all gitout (was it not Sartre who said "Hell is other

people, pressed up against you talking real loud on cell phones or eating sweaty Anna's burritos"?), and the second is so empty you can see tumbleweeds rolling around on it.

That's when you have to decide: the lady or the tiger, so to speak. Do I take the first bus, and risk getting squeezed between two huge backpacks and other smelly things, or do I wait for the second bus, and hope it stops for me? The first time I chose the latter, I could swear the second bus driver, a huge, bulking ogre of a man, looked through the doors at me and, in the few seconds it took for him to pass, spoke Edmund's other famous line 'Now, gods, stand up for bastards!" It's the kind of thing T and bus drivers like to yell, I've found.

But that's if the bus even comes at all. Some days, it just never comes, despite how long I wait (to any dirty-minded individuals: shut up.) In such cases I'm left having to ride the underground railroad we call the T (though of course the original was more efficient). It's generally more reliable than the buses, but less convenient, thus the subtle calculus I practice most nights begins: "let's see, it's a 20 minute walk from the nearest T stop to my place, and the bus drops me right off in front but it's already 25 minutes late ..." But, of course, even the T can mess you up, such as when the train is mysteriously 'delayed' and goodness knows when it'll return.

But, as my fiancee says about me, there are good things too. I mean, compared to the public transportation systems at home, Boston's well, exists. It's actually really good, too, despite what my New Yorker friends say, and over the years the MBTA has served me quite

At the same time, of course, why post timetables when they won't be followed? Why bother having all these great buses and trains and all, if half the time they're unreliable or staffed by surly drivers or, y'know, nonexistent? It is a crazy world we deal with in public transportation, especially when there are supposed to be rules to follow. In the end, I think Shakespeare (via Polonius) said it best: Though this be madness, yet there is method in [the] 'T.



Although the Number 1 bus runs roughly every 15 minutes between 6 p.m. and 9 p.m., this bus arrived a full 40 minutes after the bus that preceded it. The erratic schedules are often the source of complaints from commuting faculty and students.

Hail to the Queen

Surviving the Geyser

By Matt Zedler

The Cambridge-MIT Exchange (CME) program is different from many advertised exchange programs since academics are still a priority. Junior engineers in the CME program are essentially converted into third-year engineering students at Cambridge. Such a shift didn't initially seem like it would be so difficult, as the language is the same. One is coming from MIT after all. The first, or Michaelmas, term at Cambridge quickly culled those naïve conclusions.

In the English system, one specializes early on. Universities require that applying students interview with a member of the faculty in a specific discipline — in other words, there is no option of being "undecided." Such a system has one clear advantage: the university education can be more focused and therefore shorter. Most Cambridge students graduate with a Bachelor's degree in three years, with some courses presenting a Master's degree to those who stay around for a fourth year. While there are plenty of people at MIT who would rather do without the HASS requirement and the GIRs, I found having four or five pure engineering classes per term rather difficult.

The first term was especially tough because the Cambridge system is much more competitive than MIT's, and I was coming in with no friends, no experience, and a mistaken belief that individual students' success would be a priority as it is at MIT. All engineering students

take a more general course for the first two years, finally specializing in the third year. Each year, students receive a mark that serves the same purpose as our grade point average. About 10% of each year's students get the coveted 1sts, the vast majority gets 2.1s or 2.2s, and a small portion get 3rds or actually fail the year. There are no tests, quizzes, or midterms - only the infamous Tripos exams at the end of the year.

Even though the year is broken into three distinct terms (Michaelmas, Lent, and Easter), exams for all courses are given during the Easter term, mean-

ing that all the information one learns in the Michaelmas term must be retained for an extra term before one is actually tested on it. Imagine finishing fall term at MIT, going home for winter break without having taken any tests, coming back for spring term, and then finally getting tested on everything at the end of the year. Shorten the terms to eight weeks with five week vacations (so called because one is supposed to "vacate" the university rather than actually stop studying) between each, and you have the Cambridge system.

Engineering Tripos exams are at the beginning of the Easter term, right around the same time as MIT exams. Instead of spending the five week Lent vacation relaxing, Cambridge engineers tend to spend the time in the library. For two and a half weeks of this vacation, I became a "hermit" and essentially lived in the library. While the most I managed were eight hour days, some of my Cambridge friends were in the library for upwards of ten to eleven hours a day, seven days a week. Let me tell you, such intense studying is no fun, and meals and other small breaks quickly become the high points of the days. Stress levels rise, and it becomes almost impossible to escape the heavy atmosphere — every time I left my room, I had to walk past the library and see my peers studying there.

After what seemed like a lifetime of this self-induced agony, we finally reached the first exam. Each module had a one and a half hour exam where three out of four problems had to be answered. There was never enough time, even if one knew exactly how to approach the question. Instead of seeing how you think, Cambridge exams force you to learn how to apply a certain methodology to a problem. If you don't know how to do the problem when you first look at it, you aren't going to be able to solve it completely during the allotted time.

On top of this, there are several robed proctors who are constantly swooping up and down

the aisles "invigilating," or making sure no one is cheating. After surviving eight to ten of these exams, it was little wor der that some of the CME students were caught saying, "I'm looking forward to having an MIT exam next year ..." Of course, that response could due to the copious amounts of champagne consumed after the final exam, as one was

languidly basking in the freedom of the spring weather.

I do not think that either the MIT or Cambridge academic system is superior; instead, I feel like each has its own strong points and corresponding weaknesses. The work exerted in both environments is supposedly the same, and the end result is similar. In both systems, students tend to purge all the material after exams are over, only remembering the bits which actually can be connected to their own



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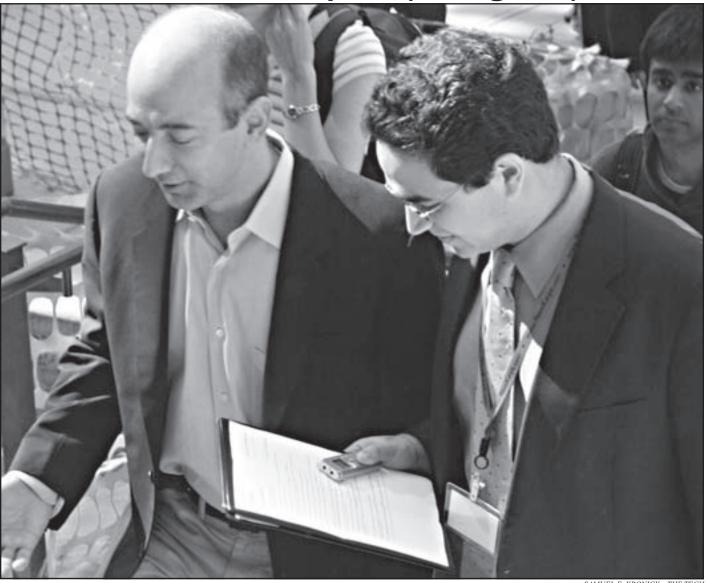
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Bezos: Pimp My Segway









SAMUEL E. KRONICK—THE TECH Jeffrey P. Bezos, founder and CEO of Amazon.com (left), answers questions in an interview with Zachary Ozer '07, The Tech's chairman. Bezos gave the opening keynote speech at the Emerging Technologies Conference, held Wednesday, Sept. 27 in Kresge Auditorium.

By Zachary Ozer

Jeff Bezos is a busy man. As founder of Amazon.com, he has seen the company's product line grow from books to music, video, clothing, and even high-end jewelry. At the MIT Technology Review Emerging Technologies Conference last month, Mr. Bezos spoke on the company's move into the realm of web services and the company's choice to sell access to Amazon's computational resources. After his address, The Tech got a moment of Mr. Bezos's time during his walk to President Hockfield's office.

The Tech: Jeff, before this meeting, I tried to look you up on Facebook, but I couldn't see you. Do you look people up on Facebook before you meet them?

Jeff Bezos: No, I don't use it.

TT: Really? So you're not a Facebook stalk-

TT: Hmm ... Well what about Wikipedia? Have you ever read your own article?

JB: I read it once a long time ago, but I've

TT: I wish I had a Wikipedia article. I've also always wanted to wander down the aisles

of one of your warehouses and just grab stuff. Have you ever done that? Ever wanted to?

JB: No. But I always wanted to drive a forklift. I used to do a lot of the packing and shipping myself. One day, I was at one of our sites and I asked the guys who worked there if I could drive the forklift. They had to think about it for a while because of all of the safety issues — destroying inventory, hurting people . They said, "Well ..." Then, they took it outside and I got to drive the forklift.

TT: Speaking of driving, besides jewelry, one of the most expensive items on Amazon I could find is a \$20,000 JL421 Badonkadonk Land Cruiser/Tank. Do you have one?

JB: No, but I did see that there's a diamond encrusted MP3 player (TrekStor i.Beat organix Gold MP3 Player) for \$20,000. We've sold 3!

TT: Any 1-Clicks?

JB: (Laughs) I don't know, I'll have to

TT: But seriously, about the tank, is it for real? Because the name, Badonkadonk...

JB: I don't know.

TT: Ok, so you don't have a tank, but I've heard you have a Segway.

JB: I do. I have one at work.

TT: Have you ever wished Xzibit would

pimp your Segway? JB: (Looks puzzled)

TT: You know, the MTV show with the rapper ... Well, anyways, would you consider sending it off to get spinners put on on it?

JB: (Thinks) Maybe. Segway personalization ... There might be a market for that.

TT: I'd 1-click a Jeff Bezos Special Edition diamond encrusted Segway with 24's on the

JB: (Laughs)

TT: We're running out of time, so let me skip to a serious question. If you were in charge of computer science curricula for the entire United States, what's the one class you'd make mandatory and why? Mind you, this doesn't have to be a CS class, it could be history or

JB: That's a good question ... I need to think about that for a second. (Thinks) I'd say that freshly-minted CS's should know something about designing large scale databases, ones with millions of transactions. It'd be a fun class to teach.

TT: Jeff, thanks so much for your time.

JB: Absolutely.

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Alumni Gifts Used to Expand Campus

Endowment, from Page 1

and Public Affairs. Yale University, with the second largest, had a 22.9 percent increase this year, and a 19.4 percent increase last year, according to Yale's Office of Public Affairs. Although MIT outstripped these universities in percent growth this year, there are still large discrepancies in the relative sizes of the endowments themselves. As of June 30, 2006, Yale had a total endowment of \$18 billion, while Harvard had an endowment of \$29.2 billion. MIT had the sixth largest endowment in 2005, lagging behind Stanford University, the University of Texas system, and Princeton University.

The endowment consists of gifts from alumni and friends of MIT over the past 142 years, as well as returns on investments in stocks, bonds, and real estate. It is spent on expanding MIT's campus, lowering tuition costs, and large increases allow for more spending. The projected spending in the 2007 fiscal year is \$345 million, compared to \$109 million 10 years ago, according to Alexander.

Universities with endowments over 1 billion dollars generally allocate a larger percent of assets to real estate, hedge funds, private equity, venture capital, and natural resources. Less focus is put on equity and fixed income, according to the 2005 National Association of College and University Business Officers endowment study, which compares countrywide endowment statistics.

Despite this year's success, the focus remains on long term increases in the endowment. As of June 30, 2006, the ten year annualized rate of return on investments is 15.3%, and increasing this number is the primary focus of the MITIMCo, according to Alexander.



David B. Stiebel '09 and Colin Berkley '08 (right; in sleeping bag) participate in MIT Hillel's SleepOut Homelessness event Thursday night, Oct. 12. The overnight aimed to spread awareness of homelessness in the Cambridge area and to raise money for the Harvard Square Homeless Shelter.

Solution to Crossword

from page 6

Solution to Sudoku from page 6

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Cable Changes Could **Apply Within Weeks**

Cable, from Page 1

current MIT Cable TV lineup, and to determine the channels that could act as replacements. The representatives are collectively known as Cable-

"MIT Cable is capable of making the changes that the Cable-storm group is requesting," said Randall W. Winchester, team leader of MIT Cable Television.

"It may be between a few weeks from now and next September [to replace the other two channels]," Miller said.

The reason for the delay is that

comes through Housing are currently eligible for replacement, according to Natalija Z. Jovanovic G, a member of Cable-storm, in a September

Comedy Central and the Sci Fi Channel are included in packages with subscription fees of \$1.00 and \$0.50 per resident per month, respectively. Since the latter package also includes MTV, mtvU will be upgraded to MTV. The other channels included in the packages cannot be aired on MIT Cable due to infrastructure limitations.

"Housing has to wait for new housing rates to come out before changes to the cable service can be made," said Dalley. "At the moment, we are seeing if there is a way we can enact the changes without direct costs to students during this academic year."

"It's a shame they didn't do this a couple of years ago," commented Greg H. Belote '07, a senior, since the Class of 2007 might not be able to benefit from the changes to MIT Cable.

"I'm slightly sorry to see C-SPAN [2] go but not in reference to what I'm getting," said Allen Bryan G, a Sidney Pacific resident who participated in the survey.

A final survey will be opened in a week or two in which the students will have the option of selecting four out of six channels that they would like to see in the MIT cable television lineup, according to Miller. The six channels are WGBH World, WGBH Create, Univision, TeleFutura, FX, and ESPN. The first four channels are already part of MIT Cable's current lineup. FX and ESPN, which are not currently offered by MIT Cable, garnered a significant number of votes in the initial survey.

The cheapest option to broadcast ESPN to everyone on campus would cost between \$225,000 to \$500,000 a year, Dalley said. In order to broadcast ESPN to specific segments of the on-campus student population - individual dormitories for example — the subscription fee is \$10 per person per month.

"There is no feasible way of paying for ESPN and billing for it is a big challenge, in addition to setting up a billing system," said Dalley. "A chunk of students wants it very much so we are trying hard to find a way to implement it."

According to Miller, 29 percent of on-campus graduate students and 43 percent of on-campus undergraduate students participated in the most recent survey. Only 29 off-campus students voted. East Campus had the highest number of undergraduate participants, with 63 percent of its residents voting. Among graduate students, Eastgate Apartments had the highest percentage, with 51 percent of its residents participating in

"Speaking for the undergrads, n very happy with the number of people who took the time to complete the survey ... and I appreciate the level of discussion that is taking place around this issue," said Miller.

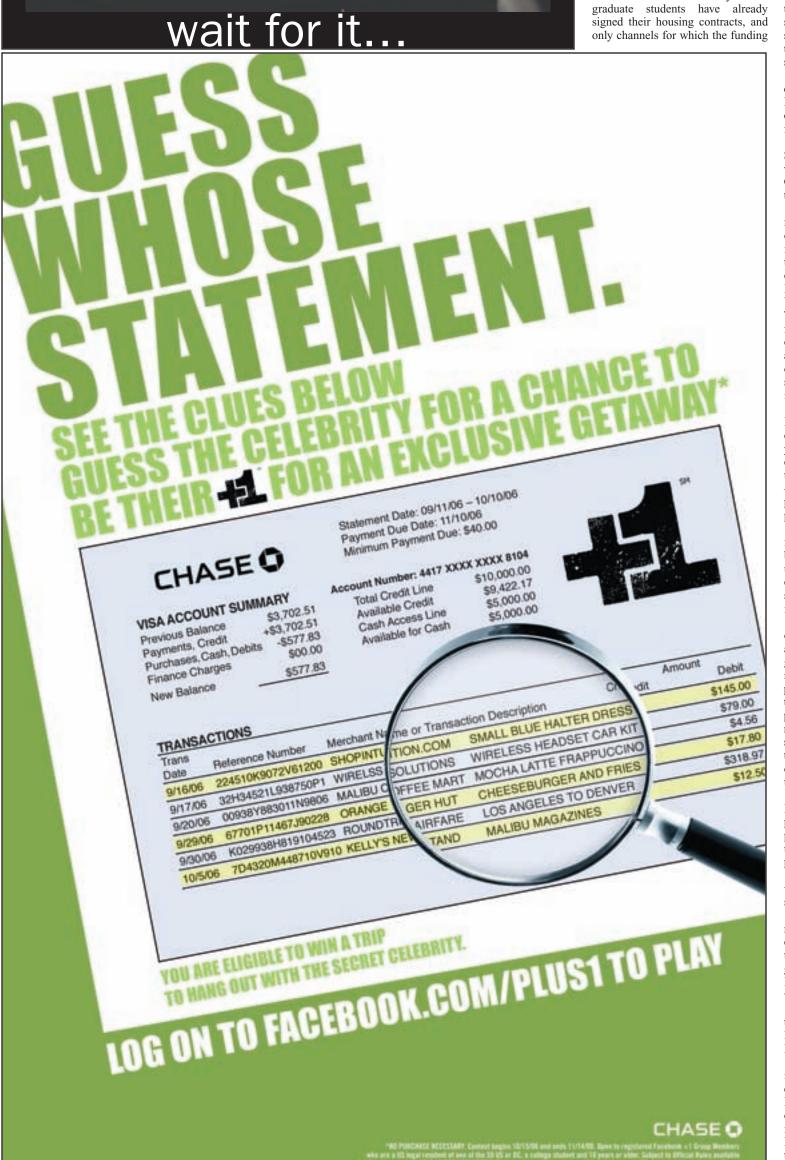
Preliminary reactions to the survey results and the subsequent decisions made have been mixed.

"I'm glad that they added channels that people will watch. However, I'm upset that I'm going to have to pay for them even though I'm not going to watch them," said Denise Ichinco '09, an East Campus resident who participated in the survey.

Some students were excited about the possibility of watching channels like Comedy Central and Sci Fi on MIT Cable TV in the near future.

"You mean I can stop downloading Battlestar Galactica torrents every week? Hells yes!" said Krzysztof E. Baranowski '09, when informed of the inclusion of the Sci Fi Channel in the future cable television lineup. Battlestar Galactica airs weekly on the Sci Fi Channel.

Students can expect the results of the final survey to be out by mid-No-



THE TECH Page 11



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rule #1: never get in the banshee master-chief@tt.mit.edu

Police Log

The following incidents were reported to the MIT or Cambridge Police between Oct. 2 and Oct. 11, 2006. This summary does not include incidents such as false alarms, general service calls, or medical shuttles.

- Oct. 2: NE125, 4:28 p.m., Vehicle broken into at the Broad Institute
- Oct. 3: E15 (20 Ames St.), 4:40 p.m., Suspicious person in E15 lobby. M50 (142 Memorial Dr.), 7:12 p.m., Party reports suspicious person. Memorial Dr., 11:36 p.m., Officer assisted with traffic due to minivan and pedestrian accident.
- Oct. 4: TDC (372 Memorial Dr.), 7 p.m., Stephen Fantone of 372 Memorial Drive, Cambridge, arrested for 2 counts of assault and battery, malicious destruction, and breaking and entering
- Oct. 5: W85 (540 Memorial Dr.), 2:25 a.m., Yelling reported coming from Westgate. Responding units report couple having
 - argument.
 201 Vassar St., 2:18 p.m., Bicyclist struck by motor vehicle, victim transported to Mass. General Hospital.
 - SK (480 Commonwealth Ave.), 6:12 p.m., Report of open and gross lewdness.
- Oct. 7: NW10 (143 Albany St.), 1:54 a.m., Housing reports malicious destruction at NW10.
- Oct. 9: Lot 15 (22 Windsor St.), 8:27 a.m., GPS unit stolen from vehicle.
 - E23 (25 Carlton St.), 8:33 a.m., Doctor states student was punched in the face outside a fraternity in Boston on Oct. 7, 2006. States victim has a fractured jaw and received medical care at Massachusetts General Hospital.
 - E17 (40 Ames St.), 4:48 p.m., Report of an intruder.
- Oct. 11: E53 (30 Wadsworth St.), 10:16 a.m., Unknown person dumped coffee in truck.
 - M5 (55 Mass. Ave.), 3:10 p.m., Caller stated one of his employees was threatened.

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The Economist October 17, 2006 THE TECH Page 13



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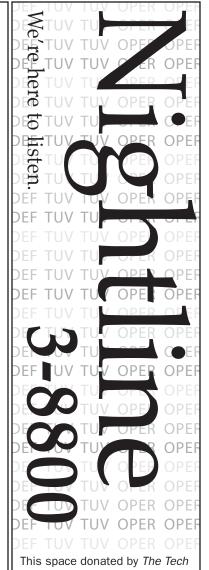
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* MIT Campus Alcohol Advisory Board (CAAB), CCPI Survey 2006.

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Students Could Miss Entire Field of Study

Curriculum, from Page 1

jects, students would be required to take one subject from each of five out of six categories: math, physical sciences, chemistry, life sciences, computation and engineering, and project-based first-year experiences.

The committee recommends no more than three subjects for each of the categories, except for project-based experiences.

One of the criticisms of the new SME requirements raised at last night's UA Senate meeting is that, as proposed, students could potentially miss out on an entire field of study, such as biology or chemistry.

Advanced Placement credit, the committee concluded, should not be

used to satisfy GIRs, with the exception of calculus. Students should still be able to test out of classes through departmental Advanced Standing Exams, the report states.

"We like to think of AP classes as good college preparation," Enders said during the UA Senate meeting. "AP likes to think of it as a way to get through school faster."

The proposed HASS requirement would have two major phases, a foundational phase that would be completed within the first two years and a concentration phase. The foundational phase would include one class from each of three categories — humanities, arts, and social sciences — one of which would be a freshman experience class that would tackle a "big idea" like poverty, globalization, or human nature.

The foundational phase of the HASS requirement should "expose students to different modes of analysis," Walker said. The CI-H portion of the communication requirement would be integrated into the foundational courses.

According to Enders, the faculty is concerned with the perception among students that HASS classes are "throwaway" subjects that are chosen based on whether they fit into a student's course schedule.

The addition of the foundational requirement elevates the prominence of the HASS subjects, Enders said. The proposed freshman common experience HASS classes would also give students a common experience that allows them to converse about their humanities classes.

The concept of the first-year program experience has drawn criticism from students.

"I cannot think of any other part of the core that has gotten more negative feedback," UA Senator from East Campus Jessica H. Lowell '07 said during the Senate meeting last night. "Students really value the fact that people can choose which HASS class they can take. They like the fact that they are in classes with upperclassmen. They don't understand why the report supports the view that freshmen would only talk to other freshmen about their classes."

Other senators pointed out that the proposed changes make the HASS requirement less flexible. One student pointed out that freshman year schedules are "very rigidified" and HASS classes are the only opportunity for freshmen to make choices.

Dean of Science Robert J. Silbey, chair of the task force, said that any changes to the GIR would take at least 18 months of deliberation by the faculty and experimentation with pilot classes.

Five pilot project-based subjects and three freshmen experience HASS subjects are under development and will be offered in the coming semesters, according to Margaret S. Enders, associate dean of faculty. Currently, a project-based seminar is being offered as a model for developing future courses. (See http://web.mit.edu/darbeloff/current.htm for more details.) The creation of these classes is being funded by the d'Arbeloff Fund for Excellence in Education.

Report stresses int'l experiences

In addition to the changes to the GIRs, the committee also emphasized the importance of international experiences in the undergraduate education, as "being able to understand and to work with people from diverse nations and cultures are indispensable abilities that will charac-

Curriculum, Page 15

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ecommendations Encourage Study-Abroad Programs

Curriculum, from Page 14

terize successful leaders in the coming century."

The recommendations focus on bolstering current MIT study-abroad programs, such as MIT International Science and Technology Initiatives and the Cambridge-MIT Exchange, and encouraging departments to cultivate relationships with other universities.

"The task force felt strongly that MIT students should be thinking about going abroad," Silbey said.

Silbey acknowledged that studying abroad posed unique problems for engineering students. According to the report, there is a "lack of a study-abroad tradition among engineering students nationally." Thus, opportunities must be consistent with MIT's culture and educational

Study-abroad programs "should also have some of the MIT rigor in them," Silbey said.

The report states that students

who want to study abroad should be able to "without financial or academic penalty." Students should still be able to graduate in four years even after going abroad.

Miscellaneous recommendations

Advising, resources, diversity, first-year coherence and integrity, and other aspects of the educational commons were also touched on in the report.

"The task force recognized that the first year was not viewed as a cohesive experience," Walker said. Changes should be made to coordinate first-year subjects, possibly by making sure exams do not fall on the same day, for example.

Part of making the first-year experience more cohesive would be to put the "intellectual goals" of orientation first.

UA Senator from Burton-Conner Ali S. Wyne '08 (also a Tech opinion columnist) brought up a concern about the status of orientation and Residence Exploration. While the faculty believes that orientation

should be more about exploring academic options, as Enders said, some students believe that orientation is one of the only opportunities for students to explore housing options.

According to the report, maintaining a diverse student body should be of "paramount importance." New subjects created "should address directly the relationship between the subject design and the diversity goals of the Institute," the report states.

While Silbey agreed that goals such as the one above were "vague," the inclusion of these recommendations clearly shows how much MIT emphasizes diversity.

One other general suggestion was to eliminate the additional unit requirements that are currently required to complete two undergraduate degrees. Instead, students could complete a double major by satisfying the requirements of both majors, as well as the GIRs, but no additional

The report is available at http:// web.mit.edu/committees/edcommons/ documents/task_force_report.html.

Educational Goals

The report from the task force identified the following four educational goals as important for every undergraduate at MIT:

- ¶ A broad understanding of the most important concepts in modern science and technology.
- ¶ Deeper expertise in a subset of these concepts that will enable the successful pursuit of a challenging major in science or engineering.
- ¶ Knowledge about the "humane culture of society" and the necessary ability in social interactions to participate as an effective citizen and
- ¶ Experience from participation in a new discovery through research such as a UROP, a senior thesis, or an international internship.

Principal Recommendations

The task force made recommendations in the following four areas:

Science, Mathematics, and Engineering Requirement

- ¶ The current science core, REST requirement, and Institute laboratory requirement will be replaced by an eight-subject Science, Mathematics, and Engineering Requirement.
 - The figure "The General Institute Requirements" on this page illustrates the organization of the SME Requirement endorsed by the majority of the task force.
 - · A significant minority of the task force favored alternative plans with five, not six, elective categories, either eliminating mathematics or combining computation and engineering with the project-based first-year experience.
- ¶ With very few exceptions (possibly only calculus), students will no longer be able to place out of science core classes except through MIT-administered Advanced Standing Examinations.
- ¶ The number of classes a major may require out of the SME Requirement will be limited. Major programs that have a large number of required classes should also offer a more flexible degree alternative.

Humanities, Arts, and Social Sciences Requirement

- ¶ The current Humanities, Arts, and Social Sciences Requirement will be replaced by a new requirement as illustrated in the figure "The General Institute Requirements" on this page.
- ¶ There should be coordination in class scheduling such that the foundational HASS subjects have a dedicated time into which major lectures from the SME Requirement should not encroach.

International Experience

- ¶ Existing programs that give undergraduates meaningful encounters with foreign countries should be strengthened.
- ¶ Within five years, any MIT student who wants to should be able to undertake meaningful study, work, or internships abroad without financial or academic penalty. In particular, financial aid should be available for students who study abroad, and they should still be able to graduate in four years.
- ¶ MIT should explore arrangements with comparable universities in other countries to promote undergraduate study and research ex-
- ¶ All academic departments should provide formal guidance to its undergraduates who wish to pursue study abroad.

Miscellaneous Recommendations

- ¶ Students should be able to pursue a double major (as opposed to a double degree) by simply completing the GIRs and the programs of
- ¶ The academic calendar should be examined, especially whether the Drop Date should be so late, whether there should be a true reading period before final exams, and whether there should be formalized advisor-advisee meeting times during an extended pre-registration period.
- ¶ First-year coherence and integrity: There should be an integrated, more general view of the first year experience, bolstered by an examination of orientation, freshman advising, and coordination of primarily first-year classes.
- ¶ Upperclass advising: Advising and mentoring of undergraduates by faculty members should be acknowledged in annual salary reviews and in promotion and tenure cases.
- ¶ Classroom resources and scheduling: There should be a committee to conduct long-range planning of classroom space needs at MII, and current class scheduling practices should be reformed to more efficiently utilize classroom space and to allow for more flexibility in
- ¶ Diversity: MIT should encourage and foster opportunities for more meaningful interactions between people of differing backgrounds, structure the development of its curriculum so that diversity is appropriately reflected, and regularly assess its progress on this issue.
- ¶ Resources for education innovation, renewal, and assessment: MIT should place a high priority on improving undergraduate education.

The full 158-page report of the task force on the Undergraduate Educational Commons and the 11-page summary can be accessed from http://web.mit.edu/committees/edcommons/.

SOURCE: REPORT OF THE TASK FORCE
ON THE UNDERGRADUATE EDUCATIONAL COMMONS

The General Institute Requirements

Current

Proposed

Science, Mathematics, and Engineering Requirement

- Calculus I (18.01)

• Calculus I (18.01) • Calculus II (18.02) • Physics I (8.01) • Calculus II (18.02) • Physics I (8.01) Mathematics E.g. Differential Equations (18.03), out of 6 categories Probability and Statistics (6.041 and others). Physical Sciences E.g. Electricity and Magnetism (8.02). Chemical Sciences • Physics II (8.02) E.g. Introduction to Solid-State Chemistry • Chemistry — Introduction to Solid-State (3.091), Principles of Chemical Science Chemistry (3.091) or (5.11x). Principles of Chemical Science (5.11x) Life Sciences • Introductory Biology (7.01x) E.g. Introductory Biology (7.01), Introduction to Neuroscience (9.01). **Computation and Engineering** Subjects focused on modes of thought and problem-solving tools. Project-Based First-Year Experiences Subjects in engineering and science that involve design or creation. E.g. 2.000, 12.000, 16.00. • 2 Restricted Electives in Science and Technology (RESTs) No more REST or Institute Lab GIR; • 1 Institute Lab lab requirement to be subsumed into departmental requirements

Humanities, Arts, and Social Sciences Requirement

HASS Distribution (HASS-D)

(Choose 1 subject from each of 3 out of 5 categories)

- Literary and Textual Studies
- · Language, Thought, and Value
- Visual and Performing Arts
- Cultural and Social Studies Historical Studies
- Advanced Subjects (5 classes)
 - HASS Concentration • HASS Electives

Advanced Subjects (5 classes) • HASS Concentration • HASS Electives

Foundational Subjects (3 classes) (Choose 1 class from each of 3 categories): · Humanities • Arts Social Sciences One of the three foundational subjects must be part of the First-Year Experience Program to be taken by freshmen the first or second semester of the first year.

Proposed changes to the requirements

Above is a comparison of the current General Institute Requirements and the proposed redesign by the Task Force on the Undergraduate Educational Commons that was released in the report Friday. Note that the precise list of subjects that will satisfy the category requirements in the science, mathematics, and engineering requirement has not yet been determined and will include subjects that have not yet been developed.



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Page 16 THE TECH October 17, 2006

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October 17, 2006 THE TECH Page 17

MIT Alum Founds Nonprofit to Reuse Prescriptions

As a child growing up on a farm in Israel, Moshe Alamaro SM '01 would feed grass clippings to the chickens. The green food made the birds robust, and they produced eggs with stronger shells. It was an early manifestation of Alamaro's strong aversion to any kind of waste.

He still feels a compulsion to turn waste into opportunity. Now, he has taken aim at what he says is one of the most obvious and valuable streams of waste in America: the pile of unused pills that sit in almost everyone's medicine chest.

The drugs pile up when people change treatments or get better before their prescription has run out or when they die and leave vials of pills behind. It all goes into the trash

can, and that infuriates Alamaro as rising drug costs contribute to ever-increasing healthcare insurance premiums.

"My estimate is 15 to 20 percent of drugs dispensed by pharmacies eventually are wasted," said Alamaro, 58, a research associate at MIT who was trained in atmospheric sciences and mechanical engineering. "There's easily more than \$10 billion in prescription drugs that can be recovered each year in the US."

He's working to build a nonprofit organization that could collect unwanted prescription drugs and distribute them to needy patients who can't afford to buy them. He calls it drug recycling. But even Alamaro admits that his plan could cross legal lines.

"When a friend's father died, he left behind \$40,000 worth of drugs," he said. "When I changed my prescription, I was left with a bottle worth \$200, and there was nothing I could do with it."

Alamaro envisions community

pharmacies that collect these drugs, certify and repackage them, and then dole them out to those who can use them.

The concept is starting to work, at least on a very small scale. As a result of an article in AARP's magazine and other publicity, Alamaro has begun to receive donations of drugs from Americans who share his reluctance to throw valuable drugs away. For now, he sends many of those medications to Action for Post-Soviet Jewry, a Waltham nonprofit that sends many of the prescriptions to Ukraine. There, they are distributed to seniors with chronic diseases like diabetes and asthma who don't have health insur-

"The pensioners are the most needy," said Judy Patkin, executive

[Moshe Alamaro is] working to build a nonprofit organization that could collect unwanted prescription drugs and distribute them to needy patients who can't afford to buy them. He calls it drug recycling.

> director of the group. "What they need more than anything is access to decent medicine."

> But even such a small-scale experiment highlights the challenges to Alamaro's quest. How can you ensure that drugs in opened vials are safe? Do some medications get stale and need to be discarded? What do regulators think of shipping drugs to people who may not have a doctor's prescription?

> Alamaro has been tinkering with the first problem. He is planning new packaging systems for drugs that would segregate smaller quan

tities of pills. For example, instead of getting a vial of 30 capsules for a month, a container might hold six smaller containers, each safetysealed and holding five capsules. He is also working on a new type of packaging that could show whether drugs were exposed to excessive heat.

The legal challenges are more daunting. Prescription drugs are controlled substances in Massachusetts, and state law prohibits anyone other than a doctor or pharmacist from distributing them to patients.

Those laws give pause to Dr. Scott Morris, founder and executive director of the Church Health Center of Memphis, a nonprofit clinic that serves residents who don't have health insurance. He said he is intrigued by Alamaro's plan but afraid of possible legal penalties.

'I have an army of volunteers that could put the drugs into safe packaging for redistribution," Morris said.

Morris said he wants his clinic's pharmacy to gather recycled drugs from Alamaro, as well as free samples and other donations from pharmaceutical companies, and make them available to anyone in the community who lacks health insurance.

'I'm totally enamored with the possibility," Morris said. "I'm ready to take Moshe's drugs. Everything he says makes sense. We're going to start as soon as we get totally comfortable with the legal issues."

Alamaro scoffs at laws prohibiting the redistribution of drugs, adding that he's willing to go to jail for his activities. It's typical of Alamaro, who calls himself an inventor and has a skill for conjuring big ideas, but a less successful record of turning them into reality.

As a graduate student at MIT, he designed a system that could steer hurricanes away from vulnerable shorelines. He has also championed a method of producing nitrogen plant fertilizer using only air, water, and electricity. Deregulation of the market for electricity killed that plan, he said. Now, he's working on another scheme to build greenhouses adjacent to electric power plants, enabling vegetables to benefit from the high concentrations of carbon dioxide and the waste heat in winter.

"He's a very creative guy," said Dr. Robert S. Langer, the famed bioengineer at MIT whose research has spawned numerous commercial ventures.

Alamaro said that the first step is to build up a recycling plan in a nonprofit like the church clinic. After that, he's sees a chance for a commercial venture.

"It would be supervised by a licensed pharmacist," he said, "and the company would get some percentage of the retail value of the drugs.

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Kang Rebound Goal Only Score For MIT

Field Hockey, from Page 20

ing in regulation. In a two-on-one situation against the Babson netminder, Elissa Slovin, Amanda P. Hunter '07 took a shot that bounced off Slovin's chest. Hunter gathered the rebound and pushed the ball to Kang for the score.

The Engineers continued to attack

but they could not score the equalizer before the clock ran out.

In net, Alexa C. Herman '08 collected three saves for MIT while Slovin made five stops.

The next opponent for both squads will be NEWMAC foe Clark University. Babson will host the Cougars today while MIT will do the same this Saturday, Oct. 21 at 1:00 p.m.

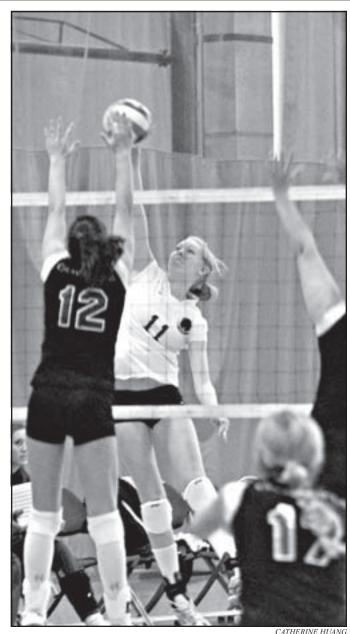
Babson Too Much For Caldwell, MIT Defense

Soccer, from Page 20

Robinson later scored his first of the year, unassisted in the 71st minute, before Mark Dayvie closed out the scoring on an assist from Greg Wappett.

MIT's goalkeeper Thomas S. Caldwell '09 was helpless on all five Babson goals, often making spectacular saves only to see the rebounds hammered home from close range. He made four stops before being replaced by Javier M. Duarte '10, who made his first save of the season in only his second appearance. Babson keeper Chris Necklas stopped two shots to pick up his eighth shut out of the season.

The Engineers next take the field today when they welcome Johnson and Wales for a 3:30 p.m. match.



Katherine C. Rowe '10 hits the ball past blockers from Colby-Sawyer College. The Engineers won the match 3-0. MIT women's volleyball hosted a quad tournament last Saturday, Oct. 14, in which they swept teams from Centre College and Eastern Connecticut State as well as Colby-Sawyer.



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SPORTS

Water Polo Falls 9-5 to Harvard On Six Straight Crimson Goals the left corner and once on a rebound spoons against metal pots and pans The MIT men's water polo team from a penalty throw. lost a tough match to rival Harvard At that point, Harvard wanted no

by a score of 9-5 on Thursday, Oct. 5. The defeat dropped the Engineers to 2-3 in Collegiate Water Polo Association Northern Division competition.

Despite scoring on its first possession of the night and later taking a 2-1 lead in the first quarter, MIT (8-13) allowed six consecutive goals spanning the first three quarters to

After the lead opened up to five goals, Harvard (7-6-1) emptied its bench to give its starters a rest. Against the reserves, Mike S. Bronstein '09 led a strong surge by the Engineers that brought the score from 7-2 to 7-4 in less than 60 seconds. Bronstein scored twice, once off a tough shot to

part of an MIT comeback, à la last year's three meetings that all resulted in deficit-erasing, nail-biting, onegoal MIT victories. Harvard coach Erik Farrar sent his starters back into the pool at once.

Near the end of the fourth quarter, Harvard increased its lead to 9-4 when an underwater skirmish distracted the Engineers and the officials did not call a foul.

Although the Engineers' offense was noticeably quiet under relentless Crimson pressure and strong reaction saves by Harvard goalkeeper Jay Connelly, the MIT crowd kept up its enthusiasm by making plenty of noise. Two MIT fans banged wooden

whenever Tech made a nice play, and other students punctuated the cheering with cries of "Go Tech!"

Though disappointed by the Harvard lead, the Tech faithful celebrated when a Morgan S. Laidlaw '08 shot reminiscent of a soft hook in basketball made the score 9-5 in the fourth

One bright spot for MIT was goalkeeper Nicholas A. Souza '10, who made 12 saves, including a penalty throw. In addition, the MIT offense had plenty of looks at the goal, but several shots missed by inches or were barely deflected by Connelly.

MIT will compete in the Division III Eastern Championship this Saturday and Sunday, Oct. 21 & 22, in

Field Hockey Loses to Babson 2-1

MIT Controls Play in 2nd Half But Both Babson Shots on Goal Go in

By Mindy Brauer

Jess Paladino's unassisted goal with 9:31 left to play proved to be the game-winner for Babson College in a 2-1 field hockey win over MIT on Saturday. The victory lifted the Babson Beavers' record to 7-7 (3-2 in NEWMAC) and dropped the Engineers' to 4-10 (1-5 in the NEW-MAC).

The first half was a defensive battle in which both teams combined for seven shots. Although Babson had a 4-1 edge in penalty corners, MIT turned away any scoring threats and kept the scoreboard empty through halftime.

The Engineers controlled the ball for the majority of the second half, but the Beavers converted on both of their two shots for the first goals of the game. Brittany Stevens ended the shutout at the 58:15 mark with an unassisted goal, and Paladino extended Babson's lead just over two minutes

MIT cut its deficit in half on a Hee Jay Kang '09 goal with 1:53 remain-

Field Hockey, Page 18



Babson College senior Heather Dunbar tries to run down Christina F. Stefanescu '08 during MIT's 2-1 loss to Babson Saturday, Oct. 14 on the Barry Astroturf Field.

UPCOMING Home Events

Tuesday, Oct. 17, 2006 Men's Soccer vs.

Johnson and Wales

3:30 p.m., Steinbrenner Stadium



Lauren P. Cipicchio '10 dives and rotates in the air during the

Babson's Unger Scores 3

In 5-0 Men's Soccer Loss

alumni diving meet this past Saturday, Oct. 14.

By Jeff Lemieux

the conference.

The men's soccer Engineers

struggled to find their rhythm in

Saturday morning's meeting with

NEWMAC foe Babson, ultimately

falling by a score of 5-0. The loss

drops MIT to 4-8-0 on the season

and leaves them with a record of 0-

4-0 in the NEWMAC, while Babson

improves to 8-4-2 overall, 3-1-0 in

Justin Unger was the hero for the

Babson Beavers, scoring his team's

first three goals in his first start of

the season. Unger entered the game

with just one goal to his credit, but

quickly brought his season total to

four with scores in the 8th, 31st and

49th minutes. He was assisted by

Sam Ensslin, Tim Winn and Gregg

Soccer, Page 18

Robinson, respectively.

Saahil Mehra '08 races Babson College's Sean Gleason (left) for control of the ball during the MIT men's soccer team's Saturday match. Babson College defeated the Engineers 5-0.



Jacob G. Latcham '09, left, and Emily F. Houston '10 take careful aim during the air rifle portion of a competition held this past Saturday, Oct. 14 against University of the Sciences, Massachusetts Maritime Academy, and Wentworth Institute of Technology.



Joanna L. MacKay '07 slices the ball back to her Wellesley College opponent during a match this past Saturday, Oct. 14.